

AMENDMENTS TO THE SPECIFICATION

Please replace ¶¶ [0020]-[0021] with the following:

[0020] Referring to FIG. 1, there is shown first embodiment of the present invention. The hydraulic control system comprises a torque converter 1, a lockup-clutch ~~3~~ clutch 2, a V-belt type CVT 3, a primary rpm sensor 4, a secondary rpm sensor 5, a hydraulic control valve unit 6, an oil pump 8 driven by an engine, not shown, a CVT control unit (CVTCU) 9, a throttle-opening sensor 10, and an engine control unit (ECU) 11.

[0021] The engine includes an output shaft 12 to which the torque converter or rotation transfer-mechanism ~~1~~ mechanism 1 is coupled, and to which a lockup clutch 2 is provided for direct coupling between the engine and the CVT 3. The torque converter 1 has an output side coupled to a ring gear 21 of a forward/reverse switching mechanism 20. The forward/reverse switching mechanism 20 comprises a planetary-gear set ~~comprising a~~ comprising the ring gear 21 coupled to the engine output shaft 12, a pinion carrier 22, a sun gear 23 coupled to a transmission input shaft 13. Provided to the pinion carrier 22 are a reverse brake 24 for fixing the pinion carrier 22 to a transmission casing, and a forward clutch 25 for integrally coupling the transmission input shaft 13 to the pinion carrier 22.

Please replace ¶¶ [0032]-[0036] with the following:

[0032] The pilot valve 50 serves to set a constant supply pressure to a lockup solenoid valve 71 and a select switching solenoid valve 70 through a hydraulic passage 51. The output pressure of the select switching solenoid valve 70 is supplied to the select switching valve for operation control thereof. The output pressure of the lockup solenoid valve 71 is supplied to the select switching valve 80.

[0033] The select switching valve 80 is actuated by the select switching solenoid valve 70 via a hydraulic passage 73. Connected to input ports of the select switching valve 80 are a hydraulic passage 72 for supplying the signal pressure of the lockup solenoid valve 71, hydraulic passage 61 having hydraulic pressure regulated by the clutch regulating valve 60, and a hydraulic passage 93 having hydraulic pressure regulated by the select control valve 90. Connected to output ports of the select switching valve 80 are a hydraulic passage 81 for supplying the forward-clutch pressure to a manual valve, not shown, a hydraulic passage 82 for supplying the hydraulic pressure to a lockup control valve 100, a hydraulic passage 83 for supplying the hydraulic pressure for actuating a spool 92 of the select control valve 90, and a hydraulic passage 84 for draining the hydraulic pressure from the select switching valve 80.

[0034] Connected to the select control valve 90 are a hydraulic passage 62 having hydraulic pressure regulated by the clutch regulating valve 60 and ~~hydraulic passage 83~~ passage 93 for supplying the signal pressure of the lockup solenoid valve 71. The select control valve 90 controls communication between the hydraulic passages 62, 93, thus regulating the hydraulic pressure.

[0035] With a signal of the select switching solenoid valve 70 turned on, the signal pressure of the lockup solenoid valve 71 operates as the signal pressure of the select control valve 90 through the select switching valve 80. And the hydraulic pressure regulated by the select control valve 90 is supplied to the manual valve.

[0036] On the other hand, with a signal of the select switching solenoid valve 70 turned off, the signal pressure of the lockup solenoid valve 71 is supplied to the lockup control valve 100 through the select switching valve 80.

Please replace ¶ [0040] with the following:

[0040] Referring next to FIG. 3, a description is made about differential-pressure command-value control for the lockup solenoid valve 71 carried out in the CVTCU 9.

Please replace ¶¶ [0042]-[0046] with the following:

[0042] At the step S202, ~~it is read engine~~ the engine torque derived from the ~~ECU 11, i.e. ECU 11 (i.e., input torque) is read.~~

[0043] At a step S203, using a map as previously set, a differential-pressure command value for the lockup solenoid 71 is determined in accordance with input torque.

[0044] At a step S204, in accordance with the differential-pressure command value, a control signal is provided to the lockup solenoid valve 71.

[0045] Referring to FIG. 4, a description is made about operation of differential-pressure command-value control for the lockup solenoid valve 71 carried out in the CVTCU 9.

[0046] Referring to FIG. 4, at an instant t1, the vehicle velocity reaches a predetermined value, so that a command for engaging the lockup clutch 2 is provided to the lockup solenoid valve 71. At that time, control is carried out along flow of step S201 → step S202 → step S203 → step S204 in FIG. 3.

Please replace paragraph ¶ [0050] with the following:

[0050] As described above, in the first embodiment, the rigidity of the hydraulic passages 72, 82 extending from the lockup solenoid 71 to the lockup control valve 100 (via the select switching valve 80) during high engine rotation can be reduced as compared with the earlier art, thereby enhancing the control stability of the lockup clutch-2, ~~allowing prevention of releasing of engagement 2 and preventing a disengagement~~ of the lockup clutch 2 due to a surging of the line pressure.

Please replace ¶ [0057] with the following:

[0057] According to the invention ~~in claim 1~~, the control unit controls the signal pressure of the lockup solenoid valve in accordance with torque as determined. Typically, during engine high rotation having surging of the line pressure, engine torque is reduced with increasing engine rpm (refer to FIG. 4). That is, controlling the signal pressure of the lockup solenoid valve in accordance with this characteristic is equal to controlling the signal pressure in such a manner as to reduce a differential-pressure command value for the lockup solenoid.

Please replace ¶¶ [0059]-[0062] with the following:

[0059] Therefore, the invention ~~in claim 1~~ can reduce the rigidity of the hydraulic passage extending from the lockup solenoid to the lockup control valve during engine high rotation as compared with the earlier art, enhancing the control stability of the lockup clutch, resulting in prevention of releasing of engagement of the lockup clutch due to surging of the line pressure.

[0060] According to the invention ~~in claim 2~~, the control unit sets the signal pressure at a maximum value when the torque has a maximum value. Thus, in an area where surging of the line pressure is not large, the spool of the lockup control valve can be set at a fully biased position to lower the source pressure of torque converter, resulting in enhancement in fuel consumption.

[0061] According to the invention ~~in claim 3~~, even if the signal pressure of the lockup solenoid surges when a maximum value of the signal pressure is provided therefrom, the spool can move in accordance with the surging, i.e. it can absorb the surging, resulting in achievement of the control stability of the lockup clutch.

[0062] According to the invention ~~in claim 4~~, when the lockup clutch is engaged, the spool is in a movable position before the fully biased position. Thus, even if the signal pressure of the lockup solenoid surges, movement of the spool can absorb the surging, resulting in achievement of the control stability of the lockup clutch.